

PATENT

ATTORNEY DOCKET: 62732.000152

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Number : 10/764,451  
Applicant : Craig A. TOWNSEND et al.  
Filed : January 27, 2004  
Title : ANTIMICROBIAL COMPOUNDS  
TC/Art Unit : Unassigned  
Examiner: : Unassigned

Docket No. : 62732.000152

Customer No. : 21967

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with 37 C.F.R. §§ 1.97 and 1.98, and in compliance with the duty of disclosure set forth in 37 C.F.R. § 1.56, applicants are submitting herewith copies of the references listed on the attached Form PTO-SB/08A (modified) for consideration and to be made of record herein by the U.S. Patent and Trademark Office in the above-captioned application.

The subject application is a Divisional Application of U.S. Application No. 09/486,550, filed February 29, 2000 (Attorney Docket No. 62732.000049). In accordance with 37 C.F.R. § 1.98(d), patent documents and published articles which were cited in the prior application do not need to be submitted herewith, but will be submitted at the Examiner's request. For the Examiner's convenience and for consideration, a copy of the signed PTO-1449 and PTO-892 from the priority case is provided.

Consideration of the foregoing plus the prompt return of a copy of the enclosed Form SB/08A with the Examiner's initials in the left column in accordance with MPEP 609 are respectfully requested.

In accordance with 37 C.F.R. § 1.97(b), this Information Disclosure Statement is believed to be submitted prior to issuance of a first Office Action. Therefore, it is respectfully submitted that no fee is required for consideration of this information. However, in the event any

fee is deemed necessary, the Commissioner is authorized to charge the undersigned's Deposit Account No. 50-0206.

Respectfully submitted,

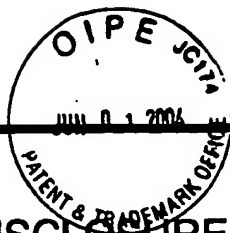
HUNTON & WILLIAMS LLP

Dated: June 1, 2004

By: David H. Milligan  
David H. Milligan  
Registration No. 42,893

Hunton & Williams LLP  
Intellectual Property Department  
1900 K Street, N.W.  
Suite 1200  
Washington, DC 20006  
(202) 955-1500 (telephone)  
(202) 778-2201 (facsimile)

DHM/sdw



Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Application Number	10764,451
Filing Date	January 27, 2004
First Named Inventor	Craig A. TOWNSEND
Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	62732.000152

Sheet

1

of

3

**U.S. PATENT DOCUMENTS**

*Examiner Initials	Cite No.	DOCUMENT NUMBER Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
J	1.	US 4123254	10-31-1978	Iwasaki et al.	
	2.	US 5530113	06-25-1996	Christ et al.	
	3.	US 5614551	03-25-1997	Dick et al.	
	4.	US 5759837	06-02-1998	Kuhajda et al.	
	5.	US 5981575	11-09-1999	Kuhajda et al.	

**FOREIGN PATENT DOCUMENTS**

*Examiner Initials	Cite No.	FOREIGN PATENT DOCUMENT		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	TRANSLATION	
		Country Code:	Number - Kind Code (if known)				YES	NO
J	6.	DE	2630947	02-03-1977	Miyamoto et al.			X
	7.	DE	2729685	01-05-1978	Iwasaki et al.			X
	8.	DE	2812542	10-04-1979	Narr et al.			X
	9.	GB	1557225	12-05-1979	KAO Soap Co Ltd			X
	10.	WO	95/19706	07-27-1995	Dick et al.			X

**NON-PATENT LITERATURE DOCUMENTS**

*Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION	
			YES	NO
J	11.	2-(dodecanesulfonyl) acetamine, Toxic Substances Control Act Inventory List (1998).		
J	12.	Baldock C., Rafferty J.B., Sedenikova S.E., Baker P.J., Stuitje A.R., Slabas A.R., Hawkes T.R., Rice D.W. "A mechanism of drug action revealed by structural studies of enoyl reductase," Science, 274:2107-2110, 1996		

EXAMINER SIGNATURE

DATE CONSIDERED


2/7/06

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



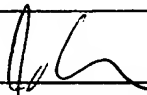
Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				Application Number	10/764,451
				Filing Date	January 27, 2004
				First Named Inventor	Craig A. TOWNSEND et al.
				Art Unit	Unassigned
				Examiner Name	Unassigned
Sheet	2	of	3	Attorney Docket Number	62732.000152

### NON-PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION	
			YES	NO
DE	13.	Banerjee, A., E. Dubnau, A. Quemard, V. Balasubramanian, K.S. Um, T. Wilson, D. Collins, G. deLisle, W.R. Jacobs, Jr., "InhA, a gene encoding a target for isoniazid and ethionamide in Mycobacterium tuberculosis," Science, 263:227-230, 1994		
	14.	Bloch, K., "Control mechanisms for fatty acid synthesis in Mycobacterium smegmatis," Adv. Enzymol. 45:1-84, 1977		
	15.	Brennan, P.J., and Nikaido, H., "The envelope of mycobacteria," Ann. Rev. Biochem., 64:29-63, 1995		
	16.	Cassady D. et al., "Sulfonylureas and related compounds," J. Org. Chem. 23:923-6, 1958		
	17.	Dessen A., A. Quemard, J.S. Blanchard, W.R. Jacobs, and J.C. Saccettini, "Crystal structure and function of the isoniazid target of Mycobacterium tuberculosis," Science, 267: 1638-1641, 1995		
	18.	Georges C. et al., "Chiral sulphur-containing molecules in Langmuir-Blodgett films," J. Chem. Soc. Faraday Trans. I, 84(5):1531-1542, 1988		
	19.	Hardy F. et al., "Vanadium pentoxide-catalyzed oxidation of thio-compounds with hydrogen peroxide," J. Chem. Soc., 17:2334-2336, 1969		
	20.	Janczewski M. et al., "Synthesis of racemic p-methylbenzylsulfinylacetic acid and its resolution into optical antipodes," Ann. Univ. Mariae Curie-Sklodowska, Sect. AA, 33:139-55, 1978		
	21.	Lie M. et al., " <sup>1</sup> H- and <sup>13</sup> C-NMR studies on sulfinyl and sulfonyl derivatives of positional isomers of methyl thialaurate," Chemistry and Physics of Lipids, 61:139-147, 1992		
	22.	Mdluli, K., D.R. Sherman, M.J. Hickey, B.N. Kreiswirth, S. Monis, C.K. Stover, and C.E. Bay, III, "Biochemical and genetic data suggest that InhA is not the primary target for activated isoniazid in Mycobacterium tuberculosis," J. Infect. Dis., 174:1085-1090, 1996		

EXAMINER SIGNATURE 	DATE CONSIDERED 2/2/06
--	------------------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				Application Number		10/764,451	
				Filing Date		January 27, 2004	
				First Named Inventor		Craig A. TOWNSEND et al.	
				Art Unit		Unassigned	
				Examiner Name		Unassigned	
Sheet	3	of	3	Attorney Docket Number		62732.000152	
<b>NON-PATENT LITERATURE DOCUMENTS</b>							
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION				
			YES	NO			
	23.	Mikolajczyk M. et al., "NMR and structural assignments in $\alpha,\beta$ -unsaturated sulfoxides using additive increments method," Tetrahedron, 32:969-973 (1976)					
	24.	Quemard A. et al., "Binding of catalase-peroxidase-activated isoniazid to wild-type and mutant <i>Mycobacterium tuberculosis</i> enoyl-ACP reductases," J. Am. Chem. Soc., 118:1561-1562, 1996					
	25.	Quemard A. et al., "Enzymatic characterization of the target for isoniazid in <i>Mycobacterium tuberculosis</i> ," Biochemistry, 34(26):8235-8241, 1995					
	26.	Solomons G.T., Organic Chemistry (Fifth Edition) (New York: John Wiley & Sons, Inc.), p. 65					
	27.	Takayama, K., Wang, L., and David, H.L., "Effect of isoniazid on the in vivo mycolic acid synthesis, cell growth, and viability of <i>Mycobacterium tuberculosis</i> ," Antimicrob. Agents Chemother., 2:29-35, 1972					
	28.	Takayama, K., Schnoes, H.K., Armstrong, E.I., and Boyle, R.W., "Site of inhibitory action of isoniazid in the synthesis of mycolic acids in <i>Mycobacterium tuberculosis</i> ," J Lipid Res., 16:308-317, 1975					
	29.	Young, D.B., and Duncan, K., "Prospects for new interventions in the treatment and prevention of mycobacterial disease," Ann Rev. Microbiol., 49:641-673, 1995					
EXAMINER SIGNATURE 				DATE CONSIDERED 2/7/06			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

FORM PTO-1449 (Modified)  
(REV. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

(062482.0164)

APPLICATION NO.

09/486,550

## LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

APPLICANT

Craig A. TOWNSEND et al.

FILING DATE

February 29, 2000

GROUP

TECH CENTER assigned

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
JE	1.	5 5 3 0 1 1 3 /	6/25/1996	Christ et al.	536	123-13	
JE	2.	5 6 1 4 5 5 1 /	3/25/1997	Dick et al.	514	454	
JE	3.	5 7 5 9 8 3 7 /	6/02/1998	Kuhajda et al.	435	193	
JE	4.	5 9 8 1 5 7 5 /	11/09/99	Kuhajda et al.	514	473	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
							YES <sup>a</sup> NO
JE	5.	9 5 1 9 7 0 6 /	7/27/95	WIPO			
JE	6.	2 7 2 9 6 8 5 /	1/5/78	Germany			X
JE	7.	2 6 3 0 9 4 7 /	2/3/77	Germany			X

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

JE	8. /	Hardy, Frederick E., et al. "Vanadium pentoxide-catalyzed oxidation of thio-compounds with hydrogen peroxide", <i>J. Chem. Soc.</i> , 1969, 17, pp. 2334-2336. (Abstract)
JE	9. /	2-(dodecanesulfonyl) acetamide, Toxic Substances Control Act Inventory List (1998).
JE	10. /	Lie, Marcel S.F., Ken Jie and Oladapo Bakare. "H- and C-NMR studies on sulfinyl and sulfonyl derivatives of positional isomers of methyl thialaurate", <i>Chemistry and Physics of Lipids</i> , 1992, 61, pp. 139-147.
JE	11. /	Georges, Christian et al. "Chiral Sulphur-containing Molecules in Langmuir-Blodgett Films", <i>J. Chem. Soc. Faraday Trans. I</i> , 1988, 84 (5), pp. 1531-1542.
JE	12. /	Mikolajczyk, M. et al. "NMR and Structural Assignments in $\alpha,\beta$ -Unsaturated Sulphoxides Using Addictive Increments Method", <i>Tetrahedron</i> , 1976, Vol. 32, pp. 969-973.
JE	13. /	Quemard, Annaik et al. "Enzymatic Characterization of the Target for Isoniazid in <i>Mycobacterium tuberculosis</i> ", <i>Biochemistry</i> , 1995, Vol. 34, No.26, pp. 8235-8241.
JE	14. /	Baldock, Clair et al. "A Mechanism of Drug Action Revealed by Structural Studies of Enoyl Reductase", <i>Science</i> , Vol. 274, Dec. 20, 1996, pp. 2107-2110.
JE	15. /	Quemard, Annaik et al. "Binding of Catalase-Peroxidase-Activated Isoniazid to Wild-Type and Mutant <i>Mycobacterium tuberculosis</i> Enoyl-ACP Reductases", <i>J. Am. Chem. Soc.</i> , 1996, 118, pp. 1561-1562.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.